Arizona State Retirement System

Total Fund Review and Investment Outlook For the Period Ended March 31, 2010

July 16, 2010

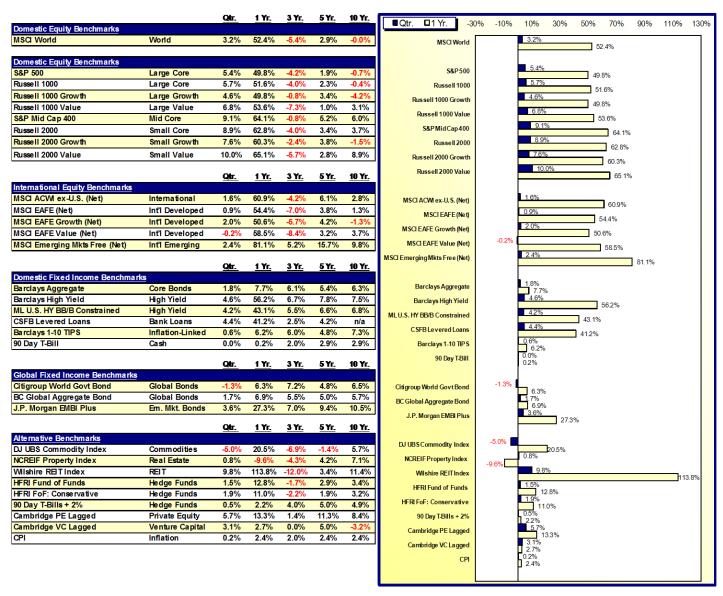
Allan Martin, Managing Partner, NEPC Gary R. Dokes, Chief Investment Officer, ASRS



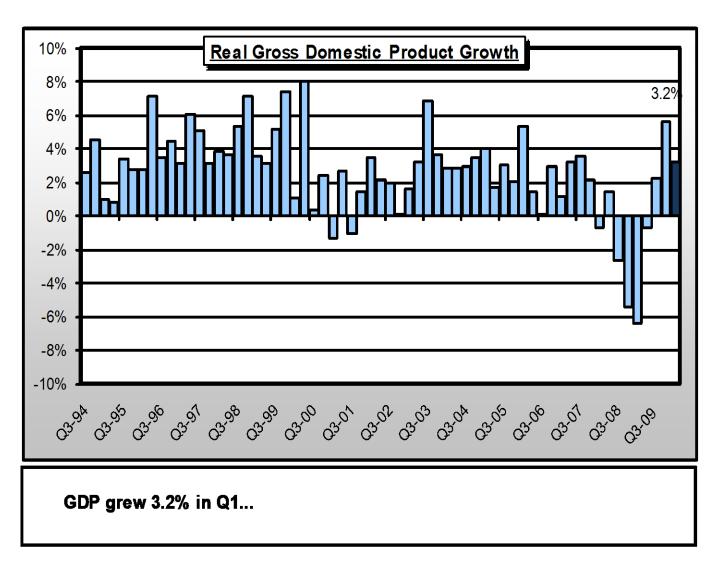
Market Environment

Note: All of the data in this report is as of March 31, 2010, unless otherwise noted.

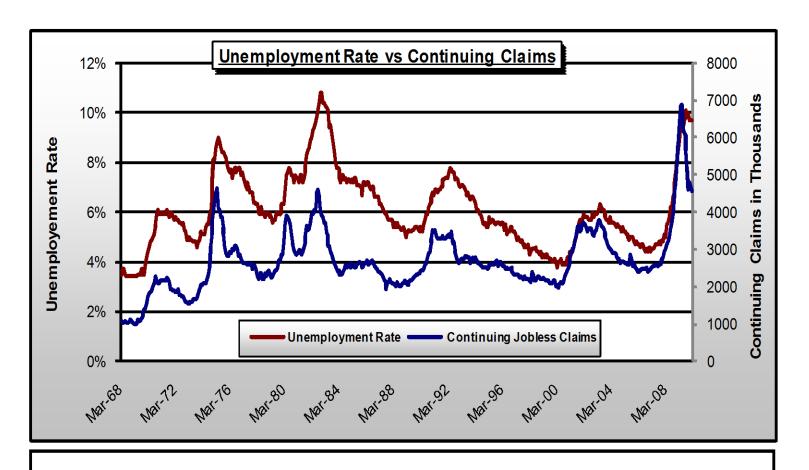
Market Environment – Overview



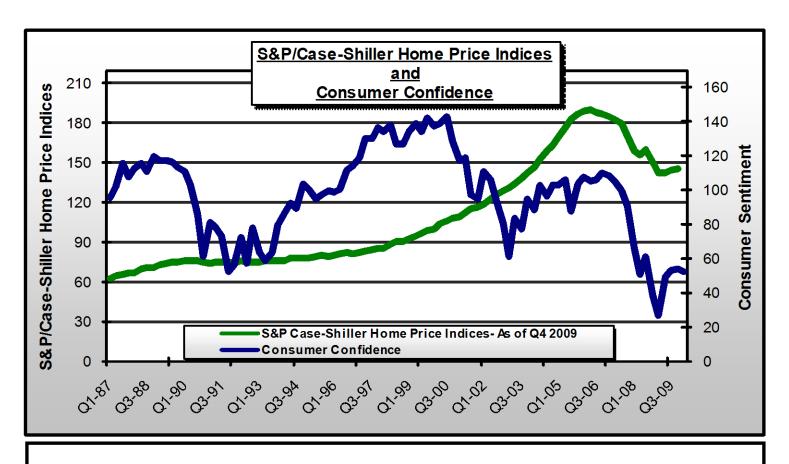
Note: Cambridge Private Equity and Venture Capital Indexes are lagged by one quarter. Performance shown as of December 31, 2009.



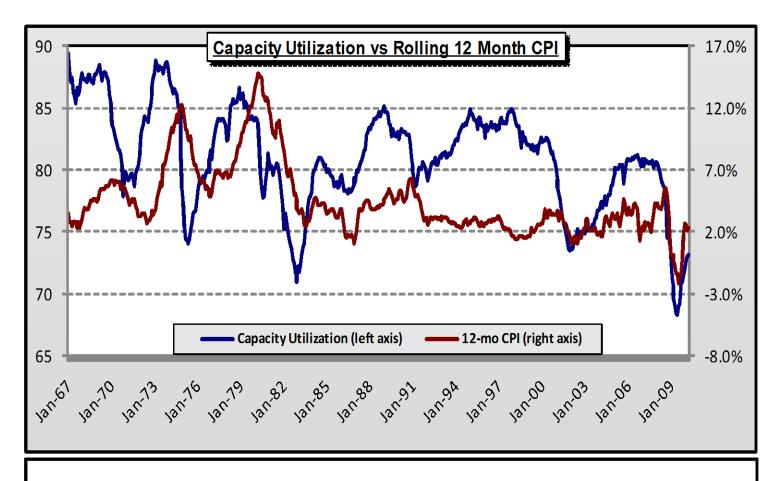
Source: U.S. Department of Commerce: Bureau of Economic Analysis and Bloomberg



Unemployment rate decreased to 9.7% in Q1, and US Continuing Jobless Claims decreased from last quarter...

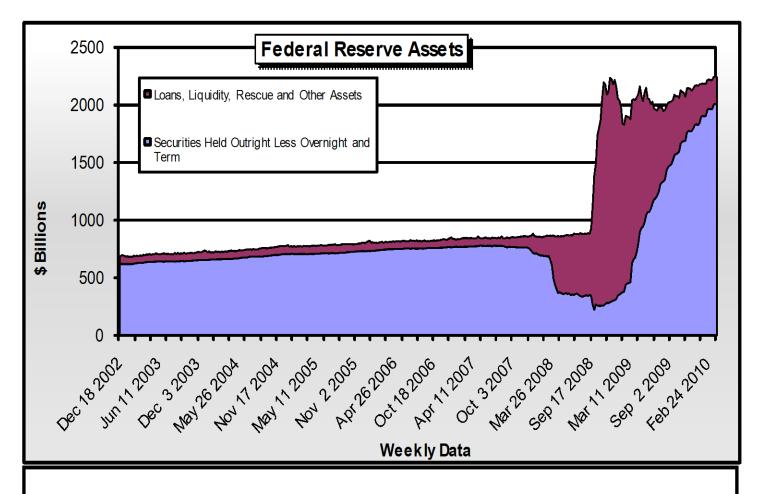


Housing prices have fallen 23% from their peak in Q2 2006; Consumer confidence slightly decreased in Q1 2010...

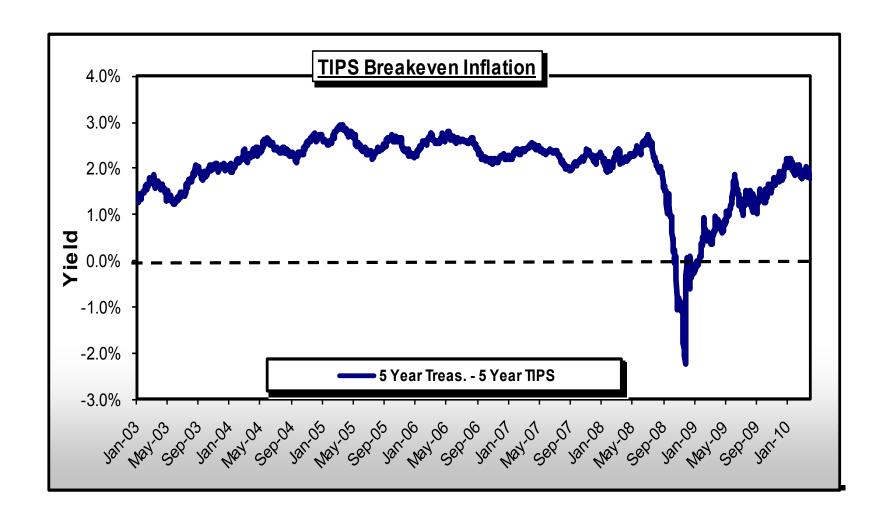


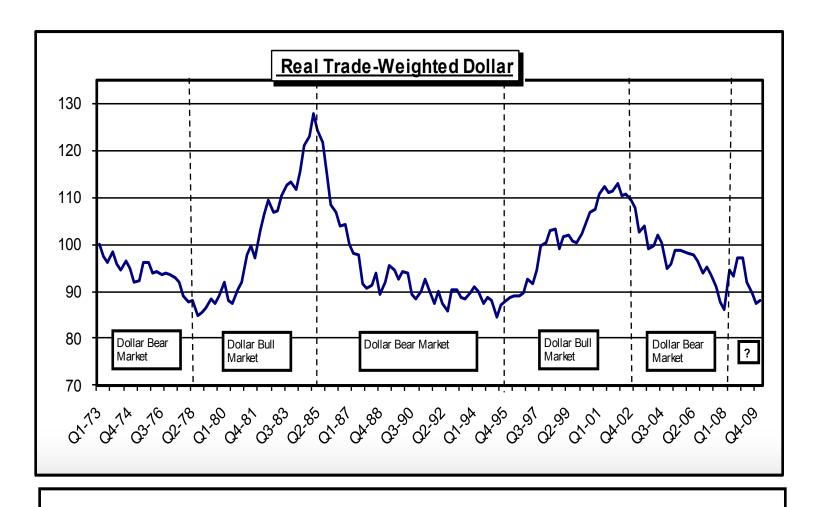
In the near term, inflation is less of a concern with a great deal of economic slack to work through before prices and wages come under pressure...

Source: Bloomberg

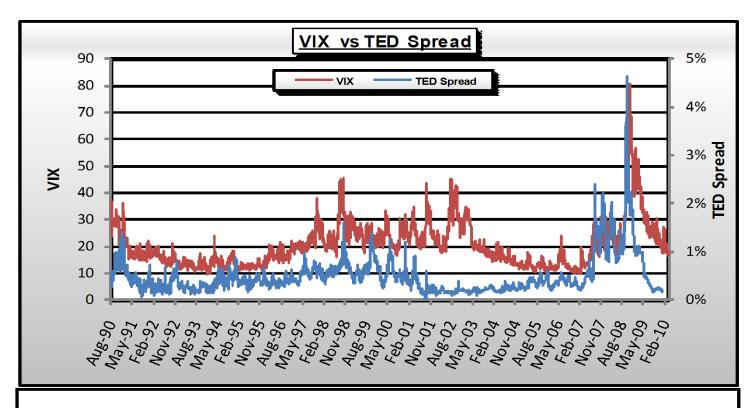


The Fed Balance Sheet continues to grow; however composition of underlying securities is changing from stimulus and liquidity provisions to purchased securities...





The Dollar appreciated in Q1 after depreciating against both developed and emerging countries in 2009...



Key fear indicators such as the VIX and TED Spread (90 Day Libor - 90 Day T-Bill) have retreated to pre-crisis levels after hitting record highs in Q4 2008...

Source: Bloomberg

Domestic & International Equities

- All capitalizations and styles were positive during the quarter.
 - S&P 500 continued to rally, returning 5.4% in the guarter, and 49.8% for the year.
 - Consumer Discretionary, Financials and Industrial Stocks led the rally over the past year, each returning at least 70% for the period.
 - International Equities trailed Domestic Equities as investors flocked to safety early in the quarter, primarily due to a flight from Europe, which also led to a strong dollar.
- Large Cap is rich, Small cap is cheap, relative to historical Price/Forward Earnings averages.
- In general, earnings yields continue to exceed 10-year bond yields.
- Consensus estimates indicate S&P 500 EPS growth is expected to increase by 37% in 2010.
- S&P 500 price momentum is generally bullish.
- Domestic Small Cap stocks outperformed Large Cap stocks by more than 11% year on year.
- Domestic Large and Small Cap Value stocks have outperformed Growth stocks by 2% so far in 2010, but Mid Cap Growth has outperformed Mid Cap Value during the period. Mid Cap Growth and Value stocks also outperformed S&P Growth and Value stocks during the quarter.
- Large Cap Domestic Equity outperformed International Equity (MSCI ACWI ex-U.S.) by 3.8% during the first quarter; however, International Equity has outperformed Large Cap Domestic Equity by more than 11% for the year. Domestic Mid and Small Cap Equities outperformed International Equity for the quarter and one-year periods.
 - MSCI EAFE Index up 54.4% for the year
 - MSCI Emerging Markets Index up 81.1% for the year

Fixed Income

- Fixed Income delivered mostly positive returns across market segments in the first quarter
- Yield Curve was virtually flat during the quarter; however, is much higher than one year ago
- The Barclays Aggregate Bond Index returned 1.8%, led by investment grade credit (+2.3%), and investment grade CMBS (+9.1%).
- Within investment grade, financials were the best performing sector, signaling improving conditions at the large money center banks
- High Yield markets were up 4.6% for the quarter and 56.2% for the year ending March 31, 2010
 - Returns were mostly driven by further spread compression as corporate spreads have returned to pre-crisis levels, with high yield spreads plummeting from more than 18% over Treasuries in the midst of the crisis back to the longer-term average of 6%.
- Liquid credit markets appear to have, at a minimum, returned to fair value.
- The Federal Open Markets Committee's (FOMC's) zero interest rate policy is expected to continue as they have stated rates will stay "exceptionally low" for "an extended period"

Private Markets

- Office vacancy in the United States has reached 17.2% during the first quarter of 2010, the highest vacancy rate since 1994
- \$1.443 trillion of commercial real estate loans are coming due between 2010 and 2014, approximately \$769 billion of the maturing loans exceeds the current property value
- FDIC identified 702 banks with \$402.8 billion of total assets for their "Problem List," the highest level for both the number of institutions and assets since June 30, 1993
- FDIC closed 140 insured institutions during 2009, and has closed 57 insured institutions during 2010 (January 1 April 23) compared to the 148 banks that failed during the 16 years ended December 31, 2008
- 1,612 private equity-backed companies were either merged or acquired during 2009
- 53 private equity backed companies went public during 2009 raising \$16.2 billion in capital
- 74 LBO defaults that occurred during 2009, 40 of the companies were acquired during 2005 – 2007

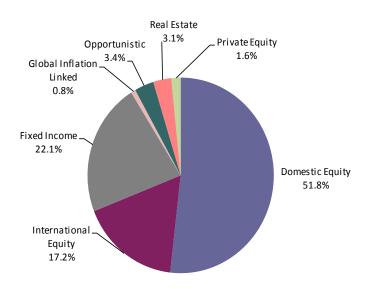
ASRS Total Fund Review

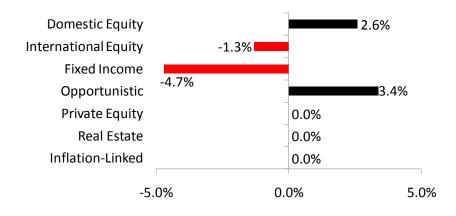
Note: All of the data in this report is as of March 31, 2010, unless otherwise noted.

Total Fund Asset Allocation

Actual Asset Allocation

Actual Asset Allocation vs. Policy Adjusted for Transition into Real Estate and Private Equity





Note: Real Estate and Private Equity market values are reported on a quarter-lag and adjusted to include the current quarter's cash flows. Within the Policy Adjusted for Transition chart, Real Estate was prorated to domestic equity, international equity and fixed income while Private Equity was prorated to domestic equity.

Investment Program Investment Goals

- Macro Goal #1: Achieve a total fund rate of return equal to or greater than the actuarial assumed interest rate.
 - Goal #2: Achieve a total fund rate of return equal to or greater than the asset allocation benchmark.
 - Goal #3: Achieve a total fund rate of return equal to or greater than the amount projected in the most recent asset allocation study.
 - Goal #4: Achieve asset class net rates of return equal to or greater than their respective broad asset class benchmarks.
 - Goal #5: Achieve portfolio-level net rates of return equal to or greater than their respective portfolio benchmarks.
 - Goal #6: Ensure sufficient monies are available to meet cash flow requirements.

Total Fund Performance

• Goal #1: Achieve a total fund rate of return equal to or greater than the actuarial assumed interest rate.

	10 Year Annualized Return
Total Fund	2.8%
Constant 8%	8.0%
Excess Return	-5.2%

Goal Met: No

Total Fund Performance

 Goal #2: Achieve annual and three-year rolling annual rates of return equal to or greater than the return of the Asset Allocation Benchmark (SAA Benchmark)

_	Quarter	9 months	1 Year	3 Years	5 Years	10 Years	Since Inception (6/30/75)
Total Fund	4.2%	22.8%	37.7%	-1.1%	4.0%	2.8%	9.9%
SAA Benchmark ¹	4.0%	21.5%	38.4%	-0.7%	4.2%	2.4%	9.7%
Excess Return	0.2%	1.3%	-0.7%	-0.4%	-0.2%	0.4%	0.2%

1 Year Goal Met: No

3 Year Goal Met: No

 $^{^{\}rm 1}\textsc{Benchmark}$ Policy history can be found on the last page of this presentation.

Total Fund Attribution Analysis

Total Management Effect	1 Year	3 Years	5 Years
Allocation Effect:			
Strategic Allocation Effect 1	0.10	-0.03	-0.10
Tactical Allocation Effect ²	-0.36	0.18	0.24
a. Total Allocation Effect	-0.26	0.15	0.14
Investment Policy Selection Effect:			
Gross Selection	0.45	0.04	0.02
Investment Management Fees	-0.27	-0.22	-0.21
Interaction Effect	-0.03	-0.13	-0.09
b. Net Selection Effect ³	0.15	-0.31	-0.28
c. Residual ⁴	-0.54	-0.25	-0.02
Total Management Effect a+b+c	-0.65	-0.41	-0.16

Source: State Street

 $^{^{1}}$ Contribution due to the asset classes that are not in the ASRS strategic asset allocation benchmark.

²Contribution due to over/underweights relative to strategic asset allocation policy weights and opportunistic fund weights.

³Manager Selection Effect represents contribution from 1) manager selection and 2) any active value/growth style tilt.

⁴Residual represents contribution from activities not captured in Allocation and Selection effects.

Total Fund Attribution Summary

1 Year Excess Return: -0.65%

- Manager Selection Effect: 0.15%
 - Fixed Income outperformed due to F2 and BGI (0.96%)
 - GTAA outperformed due to Bridgewater and Deutsche Bank (0.23%)
 - International Equity underperformed due to Brandes and MFS (-0.76%)
- Allocation Effect: -0.26%
 - International Equity tactical underweight (-0.59%)
 - Mid Cap and Small Cap Equity tactical overweights (0.16%)
 - Opportunistic strategic effects (0.10%)
- Residual Effect: -0.54%

3 Years Excess Return: -0.41%

- Manager Selection Effect: -0.31%
 - International Equity underperformed due to Brandes and AXA Rosenberg (-0.36%)
 - GTAA outperformed due to Bridgewater (0.31%)
- Allocation Effect: 0.15%
 - Fixed Income tactical underweight (0.14%)
- Residual Effect: -0.25%

5 Years Excess Return: -0.16%

- Manager Selection Effect: -0.28%
 - International Equity underperformed due to Brandes (-0.26%)
 - GTAA outperformed due to Bridgewater (0.19%)
- Allocation Effect: 0.14%
 - Fixed Income tactical weightings (0.17%)
 - Large Cap Equity tactical weightings (-0.09%)
- Residual Effect: -0.02%

Source: State Street.

Total Fund Performance

 Goal #3: Achieve a five-year rolling annual rate of return equal to or greater than the projected return expectation in the ASRS Asset Allocation Study.

	5 Year Annualized Return
Total Fund	4.0%
AA Expected Return	8.0%
Excess Return	-4.0%

Goal Met: No

Asset Class Performance vs. Benchmark

• Goal #4: Achieve annual and three-year rolling annual investment asset class net rates of return equal to or greater than their respective broad asset class

	1 Year Return	3 Year Return
ASRS Domestic Equity	54.1%	-3.0%
Domestic Benchmark ¹	53.5%	-3.5%
Excess Return	0.6%	0.5%
ASRS Int'l Equity	54.9%	-5.7%
MSCI ACWI ex U.S.	61.7%	-3.7%
Excess Return	-6.8%	-2.0%
ASRS Fixed Income	12.0%	6.7%
BC Aggregate	7.7%	6.1%
Excess Return	4.3%	0.6%
ASRS GTAA	40.4%	1.5%
Custom Benchmark ²	37.8%	-1.3%
Excess Return	2.6%	2.8%
ASRS Real Estate	-11.6%	-15.8%
NPI + 1%	-16.0%	-2.5%
Excess Return	4.4%	-13.3%
ASRS Private Equity	8.1%	n/a
Russell 3000 + 300 bps	56.9%	-1.1%
Excess Return	-48.8%	n/a
ASRS Opportunistic ³	35.0%	n/a

Goal Met: Partially

¹Domestic Equity Benchmark was S&P 500 through 12/31/2006 and 74% S&P 500, 13% S&P 400, 13% S&P 600 thereafter.

²GTAA Custom Benchmark is 56% S&P 500, 16% MSCI EAFE, 28% Barclays Capital Aggregate.

 $^{^3\}mbox{Net}$ absolute rate of return expectations range from 10-14% per annum.

Manager Performance vs. Benchmarks

 Goal #5: Achieve annual and three-year rolling annual portfolio level net rates of return equal to or greater than their respective policy benchmarks.

	1 Year	3 Years
Outperformers #	28	22
Underperformers #	64	10
Outperformers%	30%	69%

Goal Met: Yes

Cash Management

 Goal #6: Ensure all pension benefits, health insurance, member refunds, administrative payments and other requirements are made from available cash balances and without utilizing alternative liquidity options.

	Master Cash	Net Pension	Master Cash
Month	Balance pre-run	Run	Balance post-run
Apr-09	\$166,981,452	(\$141,910,214)	\$30,480,184
May-09	\$153,741,143	(\$142,080,609)	\$102,266,079
Jun-09	\$152,092,343	(\$142,386,547)	\$38,765,983
Jul-09	\$80,736,511	(\$145,381,006)	\$41,605,461
Aug-09	\$177,951,392	(\$148,319,471)	\$36,023,992
Sep-09	\$181,782,602	(\$148,999,811)	\$32,571,030
Oct-09	\$163,499,186	(\$149,551,320)	\$20,547,400
Nov-09	\$164,395,519	(\$150,385,154)	\$23,388,095
Dec-09	\$192,641,724	(\$150,384,698)	\$53,256,380
Jan-10	\$191,061,998	(\$150,004,874)	\$47,206,171
Feb-10	\$161,224,140	(\$151,074,678)	\$21,569,784
Mar-10	\$176,986,852	(\$151,897,969)	\$26,540,315

All Pension Obligations, Capital Calls and Other Requirements Met with Available Cash

Goal Met: Yes

Total Fund Performance Comparison*

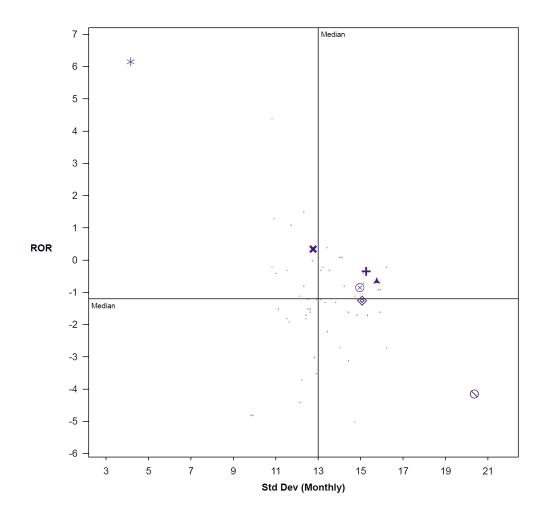
Independent Consultant's Cooperative	1 Year	3 Years	5 Years	10 Years
Master Trust Funds - Total Funds	17	64	56	78
Total Funds - Public Funds	16	59	54	80
Total Funds over \$1 B - Public	14	38	47	76
Total Funds - Corporate	23	66	66	75

Callan Associates Inc.	1 Year	3 Years	5 Years	10 Years
Master Trust Funds - Total Funds	20	55	57	76
Total Funds - Public Funds	12	55	54	82
Total Funds over \$1 B - Public	10	49	59	84
Total Funds - Corporate	29	61	65	73

Note: Universes are constructed using gross of fee returns; therefore, the ASRS rank is based on gross of fee returns.

^{*}The information contained herein is for comparison purposes only and is not a Total Fund performance benchmark. Peer universe comparisons are subject to several limitations, including: peer groups are not comprehensive, several funds are included in multiple peer groups, peer groups are constructed using gross of fees returns and survivorship bias in that poorly performing funds may no longer continue to report results.

3 Yr. Return/Volatility vs. Public Funds



	NAME	Return			Standard Deviation		arpe atio
8	TOTAL FUND	-0.9	38	15.0	85	-0.2	36
\oint{\oint}	ACTUAL BENCHMARK	-1.3	56	15.1	86	-0.2	46
•	INTERIM TOTAL FUND BENCHMAR	-0.7	33	15.8	91	-0.2	27
+	TOTAL FUND BENCHMARK	-0.4	31	15.3	89	-0.2	21
0	S&P 500	-4.2		20.4		-0.3	
*	BC AGGREGATE	6.1		4.2		1.0	
×	60% S&P 500/40% BARCLAYS AGG	0.3		12.8		-0.1	
	Median	-1.2		13.0		-0.2	

Note: Interim Benchmark incorporates a proration of 2% Real Estate and 6% Private Equity Returns are Gross of Fees.

^{*}Interim Benchmark (current): 35% S&P 500, 7% S&P 400, 7% S&P 600, 19% MSCI ACWI ex-U.S., 27% Barclays Capital Aggregate, 4% NCREIF Property Index + 100 bps (lagged one quarter), and 1% Russell 3000 + 300 bps.

Investment Outlook

First Quarter 2010 NEPC Observations and Opportunities

Despite a pause in January, markets have stayed strong – now a full 12 month rally

- Equity markets have continued a very strong run
 - S&P 500 up 5.4% in the 1st quarter (up 49.8% for trailing one-year period)
 - MSCI EAFE up 0.9% in the 1st quarter (up 54.4% for trailing one-year period)
 - MSCI Emerging Markets returned 2.4% in the 1st quarter, (up 81.1% for trailing one-year period)
- International markets were less robust than domestic as the US dollar rallied amid concerns over Greece and periphery Europe
- Credit markets have continued to excel, and now trade near pre-crisis levels
- Commodities were hurt by January sell-off

Markets are digesting bad news quickly and projecting a robust economic recovery

- While the Euro has depreciated relative to the USD and Greek spreads continue to widen, a
 potential Greek sovereign default appears to have minimal impact on overall market pricing
- VIX now trading at 15

Continued strong performance of liquid credit only further underscores need for action in opportunistic allocations

- Evolve opportunistic allocation to less liquid opportunities
- Consider strategic role of bank loans
- Rebalance to target for high yield and other liquid credit allocations

Current low volatility environment can present opportunity to adjust allocation

- Adding inflation exposure (commodities, global ILs, less liquid structures)
- Increasing allocations to active strategies as beta return expectations are increasingly modest

What Happened and What IMD Did During Q1 2010

What Happened

- Asset classes continued to display strength through Q1
 - Fixed income spread markets improved nearing pre-crisis levels
 - Equities (U.S. and International) posted positive returns
 - U.S. outperformed International as fears began to mount regarding Europe
- Dollar continued to show strength throughout the 1st quarter
- Actual Q1 S&P Corporate earnings exceeded estimates
- Unemployment halted its upward trend and is now holding steady near 10%

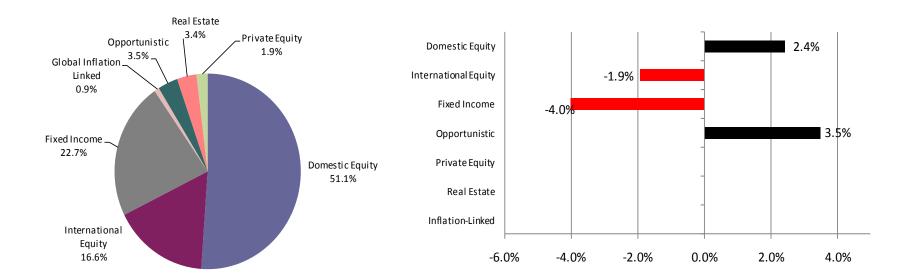
IMD Activities

- Completed restructuring of ASRS fixed income allocation.
 - Hired 1 core fixed income investment manager and 1 opportunistic investment manager.
 - Provided additional funding to 2 high yield managers and to existing opportunistic managers.
- Invested approximately 1% of the 3% Inflation-Linked allocation to TIPS.
- Cash for pension funding was raised from U.S. Equities and select sectors in fixed income deemed to be overvalued by IMD.

Where Are We Now? (as of June 23, 2010)

Actual Asset Allocation

Actual Asset Allocation vs. Policy Adjusted for Transition into Real Estate and Private Equity*



[•] Real Estate, Private Equity and Inflation-Linked Assets actual weights are equal to policy weights during the implementation of these asset classes.

^{**} Over/Under- weights include both GTAA positions as well as IMD tactical considerations.

IMD Investment House Views

Fixed Income

- The sovereign debt crisis in Europe has resulted in a dramatic shift in the fixed income markets and widened credit spreads, leading investors to shed risky assets in favor of U.S. Treasuries.
- Should the European crisis abate, the U.S. credit markets should provide attractive relative returns.
- Both prior to, and in response IMD selectively defunded a portion of opportunistic mortgage-backed investments in response to spreads widening and increased the passive holdings in U.S. governments.

US Equities

- Anxiety quickly replaced a more sanguine outlook, but the tepid commitment being made to U.S. equities continues to illustrate a noticeable skepticism of them and of the broader domestic economy.
- IMD continues to feel U.S. equities could grind higher based on improving fundamentals, but the easiest move has likely taken place.
- Consistent with ASRS strategic asset allocation policy, IMD anticipates funding the two
 active commodities mandates and a modest expected increase of Private Equity capital
 calls from the U.S. equities class.

International Equities

- Aggregate global economic growth is above trend and set to remain there well into to 2012; slack from the recession is widespread to counter a marked rise in inflation so commodity prices have not increased explosively.
- Most global markets in 1H2010 have trailed those in the U.S. resulting in valuations that are reasonable; Europe remains least extended.
- IMD maintains an aggregate policy under-weight to non-U.S. equities, but looks to move tactically closer to policy weights in both U.S. and non-U.S. equities.

IMD Investment House Views

Private Equity

- Private Equity program continues to seek managers that have a proven record of accomplishment and top quartile returns; who manage funds that target companies with enterprise values in the lower-middle, small and micro markets.
- These segments of the market have historically been recognized as employing lower leverage and achieve lower purchase price multiples due to its expansive and thus, less efficient and competitive nature.
- IMD will continue focusing on opportunities within secondaries, energy, clean tech, select infrastructure and in distressed-for-control, turnarounds, and buyout funds.

Real Estate

- Real Estate valuations continue to be affected by multiple cross currents: modest economic recovery and monies seeking investments are a positive, however, transaction volumes and property remain unclear.
- Declines in Real Estate value appear to be slowing.
- Real Estate opportunities in U.S. core equity/debt strategies will be evaluated over the next couple of quarters, with any new commitments likely to be small.

Opportunistic

- IMD believes opportunities continue to exist in select fixed income markets with such tactical investments made primarily through opportunistic fixed income managers.
- IMD has reduced some exposure in CMBS and RMBS following a rapid recent price appreciation in these sectors.

Appendix

Total Fund Benchmark History

Policy History:

- 7/1/75 12/31/79 40% S&P 500/60% Barclays Capital Aggregate
- 1/1/80 12/31/83 50% S&P 500/50% Barclays Capital Aggregate
- 1/1/84 12/31/91 60% S&P 500/40% Barclays Capital Aggregate
- 1/1/92 12/31/94 50% S&P 500/40% Barclays Capital Aggregate/10% MSCI EAFE
- 1/1/95 6/30/97 45% S&P 500/40% Barclays Capital Aggregate/15% MSCI EAFE
- 7/1/97 12/31/99 50% S&P 500/35% Barclays Capital Aggregate/15% MSCI EAFE
- 1/1/00 9/30/03 53% S&P 500/30% Barclays Capital Aggregate/17% MSCI EAFE
- 10/1/03 12/31/06 53% S&P 500/26% Barclays Capital Aggregate/15% MSCI EAFE/ACWI ex-U.S.¹/6% NCREIF Property Index + 100 bps (lagged one quarter)
- 1/1/07 10/31/2009 31% S&P 500/7% S&P 400/7% S&P 600/26% Barclays Capital Aggregate/18% MSCI ACWI ex-U.S./6% NCREIF Property Index + 100 bps (lagged one quarter)/5% Russell 3000 + 300 bps
- 11/1/2009 present 28% S&P 500/6% S&P 400/6% S&P 600/24% Barclays Capital Aggregate/2% Barclays Capital High Yield/13% MSCI EAFE/2% MSCI EAFE Small Cap/3% MSCI Emerging Markets/6% NCREIF Property Index + 100 bps (lagged one quarter)/7% Russell 3000 + 300 bps/3% Commodities²
- *Interim Benchmark: 35% S&P 500, 7% S&P 400, 7% S&P 600, 19% MSCI ACWI ex-U.S., 27% Barclays
 Capital Aggregate, 4% NCREIF Property Index + 100 bps (lagged one quarter), and 1% Russell 3000 + 300
 bps
- Note: Interim Benchmark includes a proration of 2% Real Estate, 6% Private Equity, and 3% Inflation-Linked, which are unfunded. 9% is of the proration is allocated to domestic equity, 1% to non-U.S. equity and 1% to fixed income.

¹MSCI EAFE/ACWI ex-U.S. Benchmark is the MSCI EAFE Index prior to 10/1/2005 and the MSCI ACWI ex-U.S. thereafter

²The benchmark the ASRS will utilize for its allocation to Commodities is to be determined. The Dow Jones/UBS Commodities Index was used as a proxy in the interim.